

REMARKS

The Office action has been carefully considered. The Office action rejected claims 1-4, 8, 9, 19-23, and 30 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,144,659 to Jones ("Jones"). Further, the Office action also rejected claims 1 and 5 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,884,211 to Kishi et al. ("Kishi"). Additionally, the Office action rejected claims 1, 3, 4, 6, 7, 9, 19, 31-35, 38-40 and 44 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,618,735 to Krishnaswami et al. ("Krishnaswami"). The remaining claims, 10-18, 24-29, 36, 37, 41-43, were rejected under 35 U.S.C. § 103(a) as being unpatentable over one of the three above-mentioned patents in view of each other and/or one or more of the following: U.S. Patent No. 5,604,862 to Midgeley et al. ("Midgeley"), "www.dllfiles.com," U.S. Patent No. 6,353,926 to Parthesarathy et al. ("Parthesarathy"), "Rogue Wave Software," and U.S. Patent No. 6,308,274 to Swift et al. ("Swift"). Claim 45 was not detailed in any rejection. Finally, the Office action objected to the abstract for being longer than 150 words. Applicants have amended the abstract to obviate the objection. Regarding the rejections of the claims, applicants respectfully disagree.

By present amendment, claims 1 and 20 have been amended for clarification and not in view of the prior art. Applicants submit that the claims as filed were patentable over the prior art of record, and that the amendments herein are for purposes of clarifying the claims and/or for expediting allowance of the claims and not for reasons related to patentability. Reconsideration is respectfully requested.

Applicants thank the Examiner for the interview held (by telephone) on February 11, 2004. During the interview, the Examiner and applicants' attorney discussed the claims with respect to the prior art. The essence of applicants' position is incorporated in the remarks below.

Prior to discussing reasons why applicants believe that the claims in this application are clearly allowable in view of the teachings of the cited and applied references, a brief description of the present invention is presented.

The present invention is generally directed to a file protection system and method. In one embodiment of the invention, when a change to a protected file is about to occur or has just occurred, the system determines whether the file change is/was valid or not valid. If not valid, the change is either prevented from happening or the change is undone by copying back an unchanged version of the file. These two methods of file protection are called synchronous and asynchronous, respectively.

The claims of the present invention are directed toward the synchronous method. That is, the system is operable to detect that change is about to occur on a protected file. The proposed change is checked for validity, and if the change is found to be not valid, the change to file is prevented from ever occurring. Note that the above description is for example and informational purposes only, and should not be used to interpret the claims, which are discussed below.

Common Ownership of U.S. Krishnaswami and Parthensarathy

As set forth in the attached STATEMENT TO ESTABLISH COMMON OWNERSHIP, applicants submit that the current application and the patents of Krishnaswami and Parthensarathy were, at the time the invention of the present application was made, owned by, or subject to an obligation of assignment to the same entity. Pursuant to 35 U.S.C. § 103(c), applicants request that Krishnaswami and Parthensarathy be withdrawn as a reference for all § 103 rejections, including claims 18, 25, 36-37, and 41-43.

This application was filed on April 28, 2000. For applications filed on or after November 29, 1999, a 102(e) prior art reference may not be applied in an obviousness rejection under 35 U.S.C. § 103 if the patent and the pending application are commonly assigned or subject to an obligation of assignment at the time the claimed invention was made. For at least this reason, claims 18, 25, 36-37, and 41-43 are patentable over the prior art of record.

§102 Prior Art Rejections

Independent claim 1, as amended recites a method comprising receiving information indicative of a possible change to a protected file; and determining whether the change is valid by verifying the file, the verifying performed by a verification mechanism, and if not valid, preventing the change. That is, claim 1 is

directed to a synchronous file protection method in that any invalid change is prevented from occurring.

The Office action rejected claim 1 as being anticipated by Jones, Kishi, and Krishnaswami. As is detailed below, the cited and applied references fail to teach each of the recitations of claim 1. Briefly, Jones teaches an asynchronous file protection method, Kishi does not teach a verification mechanism, and Krishnaswami also teaches an asynchronous file protection method.

In the first cited and applied reference, Jones teaches, generally, a system and method for protecting the security of computer files. More specifically, when the system taught by Jones is first started, the file security system checks protected files for consistency. Column 9, lines 49-51. Consistency (*i.e.*, whether or not any protected file has already changed) is accomplished by comparing the file signature of the actual file against a file signature of the last known archived file. Column 9, lines 51-54. If a change to a protected file has already occurred (*i.e.*, a file signature mismatch is detected) the system goes into a lock-down and corrective action can then be taken, such as removing the file and replacing it with the archived file (*i.e.*, undoing the change). Column 9, lines 58-65. As such, the system and method taught by Jones is asynchronous. It does not teach *preventing* the change if the change is not valid as recited in claim 1.

In the second cited and applied reference, Kishi teaches a system and method for a user to determine whether or not a change to a file is desired. More specifically, the system determines if a modification to a protected files is about to occur. Column 4, lines 39-43. The system then presents the user with an option

as to whether or not to proceed with the change. If the user authorizes the change, then the system proceeds to change the file. If the user does not authorize the change, the process terminates. Column 4, lines 44-54.

Kishi does not teach, however, verifying the file to determine if the change is valid by using a verification mechanism. The verification mechanism of the present invention may determine the uniqueness or identity of a file. One such verification scheme is a cryptographic hash function as described in the specification. Kishi, however, shows no appreciation or understanding of a verification process or even any commonly known verification methods. Rather, Kishi merely discloses a user interaction step in its protection method whereby the user may verify (that is, simply a decision made in the user's mind) that an entered file name to be changed is the one that user intended to change. No verification, calculation, or manipulation is performed on the file. The user has complete control as to whether the change to the protected file will be deemed "valid" by simply reading the file name, deciding that it is the file name that was inputted in the first place, and then selecting an "OK" box to proceed. Significantly, Kishi fails to disclose the recitations of claim 1.

In the third cited and applied reference, Krishnaiswami teaches, generally, a system and method for protecting the security of computer files. More specifically, the system is operable to detect changes being made to a protected file. When a protected system file is overwritten by an invalid file or otherwise improperly changed, the invalid change is detected and undone to restore the original file. See column 5, lines 1-9 of Krishnaswami. As such, the system and method taught

by Krishnaswami is asynchronous. That is, it does not teach *preventing* the change if the change is not valid as recited in claim 1.

For at least these reasons, applicants submit that claim 1, as amended, is allowable over the prior art of record.

Claims 2-19 depend either directly or indirectly from claim 1. The Office action rejected claims 2-4, 8, 9, and 19 as being anticipated by Jones. Further claim 5 was rejected as being anticipated by Kishi. Finally, claims 3, 4, 6, 7, 9 and 19 were rejected as being anticipated by Krishnaswami. Applicants respectfully disagree as the cited and applied references fail to teach the limitations recited in claims 2-19.

For example, claim 6 recites the method of claim 1 wherein determining whether the change is valid by verifying the file includes obtaining cryptographic hash information of the changed file and comparing the cryptographic hash information against cryptographic hash information associated with the protected file. The prior art of record does not teach a cryptographic hash function nor show any appreciation for a verification mechanism or process.

Applicants submit that claims 2-19 are also allowable for the additional patentable elements included in these claims.

Independent claim 20, as amended, recites a computer-readable medium having computer-executable instructions, comprising (1) selecting a plurality of files as protected files, (2) receiving information indicative of a possible change to a protected file, (3) determining whether the file is an exception case, and (a) if an exception case, allowing the change, or (b) if not an exception case, determining

whether the change is valid by verifying the file, the verifying performed by a verification mechanism, and (i) if valid, allowing the change, and (ii) if not valid, preventing the change.

The Office action rejected claim 20 as being anticipated by Jones. Applicants respectfully disagree. Similar to the discussion above with respect to claim 1, Jones fails to teach determining whether a change is valid and if not valid, preventing the change. The system taught by Jones is asynchronous in that any changes determined to be not valid are then changed back, but not prevented from being changed in the first place. For at least this reason, applicants submit that claim 20, as amended, is allowable over the prior art of record. By similar analysis, claims 21-30 which depend either directly or indirectly from claim 20 are also not anticipated by Jones. Furthermore, applicants submit that claims 21-30 are also allowable for the additional patentable elements included in these claims.

Independent claim 31 recites a computer system, comprising a protected file, a detection mechanism configured to determine when the protected file may be changed, a verification mechanism, and a file protection service, the file protection service configured to receive a determination from the detection mechanism that the protected file may be changed, and further configured to communicate with the verification mechanism to verify whether the change is valid, and to prevent the change when the change is not valid.

The Office action rejected claim 31 as well as dependent claims 32-35, 38-40 and 44 as being anticipated by Krishnaswami. Applicants respectfully disagree. Similar to the discussion above with respect to claim 1, Krishnaswami fails to teach

a file protection service configured to prevent the change when the change is not valid as recited in claim 31. Rather, the system taught by Krishnaswami makes a change and then undoes the change after it has been determined that the change is invalid. For at least this reason, applicants submit that claim 31 is allowable over the prior art of record. By similar analysis, claims 32-35, 38-40 and 44 which depend either directly or indirectly from claim 31 are also not anticipated by Krishnaswami. Furthermore, applicants submit that claims 32-35, 38-40 and 44 are also allowable for the additional patentable elements included in these claims.

§103(a) Obviousness Rejections

The Office action rejected claims 10-18, 24-29, 36, 37, 41-43 under 35 U.S.C. § 103(a) as being unpatentable over one of the three above-mentioned patents (Jones, Kishi, and/or Krishnaswami) in view of each other and/or one or more of the following: www.dllfiles.com, Midgeley, Parthesarathy, Rogue Wave Software, and Swift.

Claims 10-18 depend either directly or indirectly from claim 1. Further, each of the rejections detailed in the Office action for claims 10-18 cite a reference to Jones. As was shown above, Jones fails to teach determining whether a change is valid and if not valid, preventing the change. The system taught by Jones is asynchronous in that any changes determined to be not valid are changed back, but not prevented from changing in the first place. Therefore, claims 10-18 are

allowable over the prior art of record at least by virtue of the dependency from claim 1.

Further, additional reasons exist as to why claims 10-18 are not taught or even suggested by the cited and applied references. For example, claim 10 recites preventing the change includes copying a valid copy of the protected file to a former location of the protected file. The system taught by Jones already stores a copy of the protected file in the archive system. Thus, it would not make sense for the system of Jones to be modified to make another copy of the valid copy as suggested by the Office action. Clearly, there is no motivation to combine the teachings of Jones with the teachings of Midgeley to arrive at the recitation of claim 10. Moreover, Parthesarathy (used in the rejection of claim 18) is not a valid reference in view of the common ownership at the time of invention.

For at least these additional reasons, applicants submit that claims 10-18 are allowable over the cited and applied references.

Claims 24-29 depend either directly or indirectly from claim 20. Further, each of these rejections cites a reference to Jones. As was shown above, Jones fails to teach determining whether a change is valid and if not valid, preventing the change. The system taught by Jones is asynchronous in that any changes determined to be not valid are changed back, but not prevented from changing in the first place. Therefore, claims 21-30 are allowable over the prior art of record at least by virtue of the dependency from claim 1.

Additionally, Parthesarathy (used in the rejection of claim 25) is not a valid reference in view of the common ownership at the time of invention.

For at least these additional reasons, applicants submit that claims 24-29 are allowable over the cited and applied references.

Claims 36, 37, 41-43 depend either directly or indirectly from claim 31. The rejection of claims 41-43 cites a reference to Jones. As was shown above, Jones fails to teach determining whether a change is valid and if not valid, preventing the change. The system taught by Jones is asynchronous in that any changes determined to be not valid are changed back, but not prevented from changing in the first place.

Additionally, Krishnaswami (used in the rejection of claim 36) and Parthesarathy (used in the rejection of claim 37) are not valid references in view of the common ownership at the time of invention.

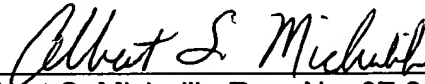
For at least these additional reasons, applicants submit that claims 36, 37, 41-43 are allowable over the cited and applied references.

CONCLUSION

In view of the foregoing remarks, it is respectfully submitted that claims 1-45 are patentable over the prior art of record, and that the application is good and proper form for allowance. A favorable action on the part of the Examiner is earnestly solicited.

If in the opinion of the Examiner a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney at (425) 836-3030.

Respectfully submitted,

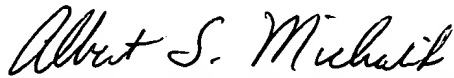


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STATEMENT TO ESTABLISH COMMON OWNERSHIP

(Regarding U.S. Patent No. 6,618,735 and U.S. Patent No. 6,353,926)

Applicants, through the attorney of record, state that the present application and each of the above-identified references were, at the time the invention was made, owned by, or subject to an obligation of assignment to the same entity.



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